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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,461	01/22/2002	Tadashi Chiba	Q68179	6888

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EXAMINER	
GAKH, YELENA G	

ART UNIT	PAPER NUMBER
1743	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/031,461	CHIBA ET AL.	
	Examiner	Art Unit	
	Yelena G. Gakh, Ph.D.	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *15-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☒ Claim(s) *5,7,12 and 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 January 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Amendment filed on 05/04/05 is acknowledged. Claims 1-21 are pending in the application. Claims 1-14 are considered on merits.

Response to Amendment

2. All objections to the drawings and the specification, as well as rejections of the pending claims are sustained, while slightly modified by the amendment.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "a vertically elongate plating solution dwell portion having a cross sectional area of not less than two times of the cross sectional area of a sampling pipe" and "a trap mechanism for preventing fine bubbles in said plating solution from being fed into said analytical cell" as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The amendment filed 05/05/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "the inside diameter of a tube piped from the place of the temperature sensor 16 and upstream of an absorbance cell 10a is greater than the inside diameter **of the pH cell 12**" *vs.* "of the absorbance cell 10a" in the original disclosure. Moreover, on page 28, lines 10-11 the specification discloses: "the pH cell has a cross-sectional area **much larger** than that of the sampling tube", which contradicts the amended specification.

Applicant is required to cancel the new matter in the reply to this Office Action.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. The specification is objected to as not providing "a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to" practice the invention in its best mode.

The specification discloses in the section "Description of the Invention": "(6) an automatic analysis and control system according to any one of (1) to (5) above, wherein a vertically elongate plating solution dwell portion having a cross sectional area of not less than two times of the cross sectional area of a sampling pipe is provided in the course of a sampling passage for introducing the plating solution into the analytical ceil, an inlet to the plating solution dwell portion is provided at an upper portion, and an outlet from the plating solution dwell portion is provided at a lower portion, whereby a trap mechanism for preventing fine bubbles in the plating solution from being fed into the analytical cell is provided" (page 8, lines 26-37). In the section "Best Mode for Carrying out the Invention" the same part of the system is seemingly

disclosed in a following way: "as shown in FIG. 9, the measuring portion B comprises an absorbance measuring unit 10 and a pH cell 12. The piping up to the pH cell 12 is 3 mm in inside diameter, and the pH cell 12 is 14 mm in inside diameter. A column 14 for supplying and storing a saturated KCI solution is connected to the pH cell 12 and a temperature sensor 16 is provided. The inside diameter of a tube piped from the place of the temperature sensor 16 and bypassing an absorbance cell l0a is greater than the inside diameter of the absorbance cell 10a, so that the plating solution containing bubbles would not be introduced into the absorbance cell 10a" (pages 18, the last subparagraph and 19, the first subparagraph)".

It is hard from comparison of these two paragraphs to associate "a vertically elongate plating solution dwell portion having a cross sectional area of not less than two times of the cross sectional area of a sampling pipe" with the structure described on pages 18 and 19. Moreover, the structure described on pages 18 and 19 is not apparent. The structure of the apparatus recited in the claims 6, 13 and 20 is not disclosed in the specification in clear and exact terms.

Claim Objections

7. Claims 5, 7, 12 and 14 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 5 and 12 recite a function, rather than a structural element of the apparatus, which makes the limitations improper.

The electroless plating solution is not a part of the parent claims, since it is not recited in the body of the claims, and therefore specific plating solution recited in claims 7 and 14 does not further limit the structure of the automated system recited in the parent claims.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 6 and 8-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 6 and 8 recite "a vertically elongate plating solution dwell portion having a cross sectional area of not less than two times of the cross sectional area of a sampling pipe", which is not adequately disclosed in specification and is not demonstrated in a drawing. It is not clear, what the "plating solution dwell portion" is and which sampling pipe it is compared with, which makes the claims not enabled by the specification.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 6, and 8-14 and are rejected, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite "a vertically elongate plating solution dwell portion having a cross sectional area of not less than two times of the cross sectional area of a sampling pipe" and "a trap mechanism for preventing fine bubbles in said plating solution from being fed into said analytical cell", which are not disclosed in the specification in a clear and definite terms, which renders the claims unclear and indefinite.

In claims 4 and 11 are not clear as to what "a measuring time table" is; is it provided with the timer, or is it a part of the software controlling the process? No clear physical element of the apparatus is recited in the claims associated with the time table, which renders the claims unclear and indefinite.

Claims 5 and 12 recite a function, rather than a structural element of the apparatus, which makes the limitations improper.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. **Claims 1-4 and 7** are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshio et al. (JP10-142143A).

Yoshio teaches "nickel concentration measurement method by absorptiometry for electroless nickel plating liquid" which "involves irradiating plating liquid by red light source which emits light beam having specified longer and shorter wavelength" (Title). "The method involves irradiating an electroless nickel plating liquid using a red colour light source. The light source emits light beam whose shorter wavelength ranges from 600-650 nm and longer wavelength lies within 750-800 nm. The nickel concentration is obtained based on the output of an optical receiver that receives light beam passing through the electroless plating liquid. ADVANTAGE - Offers easy changing of light source. Enables accurate measurement." (DERWENT Abstract). From another version of the Abstract Yoshio discloses an automatic analysis and control system for electroless nickel plating solution to control the concentration of Ni, comprising spectrophotometer capable of measuring two different regions of the wavelengths, a short wavelength of 600 to 650nm and a long wavelength of 750 to 800nm, capable of measuring wavelength of 550 nm along with 600 nm, with the wavelength having a half width of 10 to 90 nm; and a computer for calculating the concentration and displaying the calculation results. Automatic analysis and control system controlled by a computer inherently includes a timer, which can be set to any time periods, including at least 15 sec delay before optical measurements.

Claim Rejections - 35 USC § 103

14. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. **Claims 6, 8-9 and 14** are rejected under 35 U.S.C. 102(b) as being unpatentable over Yoshio in view of Acy.

While Yoshio does not specifically disclose a vertical flow cell with a cross sectional area of at least two times of the cross sectional areas of the input and output and a timer, Asu discloses an automatic system for analyzing electroless composite plating solution comprising a spectrophotometer using a vertical flow cell with a cross sectional area of at least two times of the cross sectional areas of the input and output (see Figure), and a timer, which is a part of any CPU used in an automated analytical method, which is capable of being set at any predetermined time value, including 15 sec of a delay time; the spectrophotometer is capable of a conventional calibration and measuring wavelengths with a half-width of the peaks no more than 100 nm, which is a conventional width for absorbance peaks.

It would have been obvious for any person of ordinary skill in the art to use improved structure of the apparatus disclosed by Acu in Yoshio device, because it obviously have advantages for a better regulation of the flow into and out of the meter cell.

16. **Claims 5 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshio in view of Anno (JP 355023433A) (claim 5) or over Yoshio in view of Acy applied to claims 6, 8-9 and 14 above, and further in view of Anno (claim 12).

While Yoshio and Yoshio in view of Asu do not specifically teach periodic washing the flow cell and taking optical measurements when the flow cell is filled with water as a reference measurement, Anno teaches such calibration for optical measurements of the solutions in the flow cell by washing the flow cell with water and taking measurements of the cell filled with water as a reference value.

It would have been obvious for any person of ordinary skill in the art to introduce the apparatus provided with the washing means in order to wash the cell and take reference

measurements as disclosed by Anno in Yoshio's or Yoshio-Acy's apparatus, because this is a conventional way of obtaining a "blank spectrum" in any optical measurements.

Response to Arguments

17. Applicant's arguments filed 05/05/05 have been fully considered but they are not persuasive.

Objection to the Drawings. In their Remarks the Applicants failed to indicate, where specifically the structural elements, "a vertically elongate plating solution dwell portion", "a sampling pipe", and "a trap mechanism", are located. The structural elements recited in the claims should be clearly indicated in the drawings with corresponding reference numbers and description in the specification. None of these is provided in the disclosure, contrary to the Applicants' remarks. Why the sampling pipe extends from the supply portions V1-V5? The sampling pipe, according to the definition, is a pipe to extract a sample from a vessel, not a pipe to supply reagents in the vessel. Such explanation of the sampling pipe by the Applicants raises an issue of an inappropriate usage of the conventional terms. No reference numbers are provided for these structural elements in the drawings, which contradicts the requirements for the proper disclosure.

Objection to the specification. The Applicants raised an issue of a new matter in the amended specification. The explanation regarding the disclosure of the structural elements indicated by the examiner is still not clear, since the drawings do not unambiguously show the claimed structural features with corresponding reference numbers and their adequate description in the specification.

Objection to the claims. Claims 5 and 12 recite function of the apparatus of the parent claims: "periodically receives", "said means measures", etc. and therefore do not further limit the **structure** of the parent claims, since the parent claims recite the apparatus, which is perfectly capable of the functions recited in claims 5 and 12.

Claims 7 and 14 were not rejected under 35 U.S.C. 112, second paragraph as reciting limitations with lack of antecedent basis. Rather the claims were objected to as reciting the limitations for the element, which was not a part of the body of the parent claims. Therefore, such limitations do not further limit the structure recited in the parent claims.

Double patenting issue is withdrawn in light of the amendment.

Rejection of claims under first and second paragraphs of 35 U.S.C. 112. The examiner cannot agree with the Applicants that the structural limitations recited in claims 6 and 8 are adequately disclosed in the specification. The Applicants did not provide any explanation of where these elements were shown in the drawings (in particular, Figure 9), which reference numbers they were provided with, and where these reference numbers were presented in the specification. Moreover, incorporating the structural limitation of claim 6 into claim 8 renders claim 8 and all depend claims un-enabled by the present specification.

Rejection over the prior art. Regarding Yoshio. It is not quite clear to the examiner, how it is possible to accurately measure Ni concentration without the means for calculating concentrations and displaying the results. If the Applicants are aware of any reference which teaches such method, the examiner would appreciate providing it to the examiner. All further Applicants' arguments are directed toward the method (technology), applied by Yoshio, rather than the structure of the apparatus that he uses, and therefore are not relevant to the subject matter of the instant application. Selecting the measurement wavelengths for the apparatus comprising two sources of irradiation in the claimed diapason is not a structural limitation of the apparatus; Yoshio apparatus, comprising two such sources is fully capable of this function. The standing time is a parameter of the method, not the structural limitation of the apparatus. Any timer can be set to any standing time value.

Other rejections are modified in view of the amendment.

The examiner would like to have a comment on Anno's reference. Anno is applied exclusively to illustrate a common structural element providing washing for flow cells, conventional in spectrophotometric analysis independent on the systems to be analyzed. It is such a conventional and general feature, applicable to all apparatus comprising flow cells, that the Applicants' remarks that Anno is not a relevant art are completely non-convincing.

Conclusion

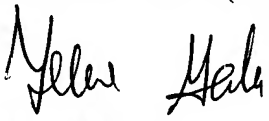
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yelena G. Gakh, Ph.D. whose telephone number is (571) 272-1257. The examiner can normally be reached on 9:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



YELENA GAKH
PRIMARY EXAMINER

6/26/05